

### AMENDMENTS TO THE SPECIFICATION

Please replace original paragraph [0036] in the specification with the following replacement paragraph. Changes are shown in markup.

[0036] Referring now to Figure 5, step ~~302~~304 of Figure 3, in which the method according to the present invention determines the geomechanical maximum number of fractures, is shown in greater detail. In step 502, the method sets the geological maximum number of fractures to zero. In step 504, the method determines an initial stress field of the well bore in the geological formation. In step 506, the method determines if a next modeled fracture will fail. If the next modeled fracture fails the method proceeds to step 508, where it returns the geological maximum number of fractures. If the next modeled fracture does not fail the method proceeds to step 510, where it models the next modeled fracture. In step 512, the method determines the new stress field due to the placement of the next modeled fracture. In step 514, the method increments the geological maximum number of fractures by one and returns to step 506.